



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Appellants: Simonutti et al.  
Title: HIGH VELOCITY GOLF BALL  
Appl. No.: 10/780,005  
Filing Date: 17 February 2004  
Examiner: Alvin A. Hunter  
Art Unit: 3711

**APPEAL BRIEF UNDER 37 CFR 41.37**

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Dear Sir:

Appellants herewith file their Appeal Brief in the above-identified case, pursuant to their Notice of Appeal filed 24 April 2008.

**1. REAL PARTY IN INTEREST**

The real party in interest is Wilson Sporting Goods Co., the assignee of the present application (as recorded at reel 014999, frame 0975)

**2. RELATED APPEALS AND INTERFERENCES**

Appellants previously filed a Notice of Appeal on 18 May 2006 and an Appeal Brief on 06 July 2006 in the present application. In response, the Examiner reopened prosecution by issuing a non-final Office Action mailed 13 December 2006. In view of the repetition of the same rejections over the same primary references, Appellants respectfully submit that

Examiner's actions have unnecessarily delayed and prolonged the prosecution of the present Application.

### 3. STATUS OF CLAIMS

Claims 1, 2, 5, 8, 10-13, 18, 19, 28-30, 32-34, 36, 37, 41, 42, and 57-68 are pending in the application. Claims 3, 4, 6, 7, 9, 14-17, 20-27, 31, 35, 38-40, and 43-56 have been canceled. The present Appeal is directed to claims 1, 2, 5, 8, 10-13, 18, 19, 28-30, 32-34, 36, 37, 41, 42, and 57-68, which were finally rejected in an Office Action mailed 27 March 2008.

### 4. STATUS OF AMENDMENTS

No amendment to the claims was filed subsequent to the most recent final rejection.

### 5. SUMMARY OF CLAIMED SUBJECT MATTER

The invention defined by independent Claim 1 is a golf ball 10 comprising a solid center 11 having a deflection, under an applied static load of 200 lb., of between about 0.090 inches and about 0.150 inches (Page 10, lines 16-31; Original Claim 1 on Page 16, lines 2-10; FIG. 1); at least one intermediate layer 12 comprised of thermoplastic material, the at least one intermediate layer 12 comprises a co- or ter-polymer of ethylene and acrylic acid, wherein 100% of the acid groups are neutralized with metal ions, the co- or ter-polymer including a level of Magnesium Oleate (Page 4, lines 16-24; Page 6, lines 6-21; Fig. 1); and a cover layer 13 comprising an ionomer or ionomer blend and having a Shore D hardness, measured on the curved surface of the golf ball, of greater than about 70 (Page 7, lines 23-26; FIG. 1); wherein, the golf ball 10, when struck by a driver club at a clubhead velocity of about 160 feet-per-second, has an initial velocity off the clubhead of greater than 240 feet-per-second (Page 4, lines 6-11; Page 14, lines 13-29; and Original Claims 1 and 47 on Page 16, lines 2-10, and Page 20, lines 11-18).

The invention defined by independent Claim 28 is a golf ball 10 comprising a core 11 comprising a high cis-content polybutadiene rubber, the rubber being synthesized using a neodymium catalyst (Page 5, lines 8-19; FIG. 1); a mantle 12 comprising a co- or ter- polymer of ethylene and acrylic acid, wherein 100% of the acid groups are neutralized with metal ions (Page 4, lines 16-24; Page 6, lines 6-21; Fig. 1); and a cover layer 13 comprising an ionomer and having a Shore D hardness, measured on the curved surface of the golf ball 10, of greater than about 70 (Page 7, lines 23-26; FIG. 1); wherein the golf ball 10 exhibits a coefficient of restitution of greater than about 0.785 at a test velocity of 175 feet-per-second (Page 13, lines 1-19).

None of the claims contain a “means plus function or step plus function” limitation requiring a separate listing in this section.

#### 6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1) Claims 1, 2, 5, 8, 18, 19, and 57 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Sullivan et al.* (U.S. Patent No. 5,779,561, hereinafter “*Sullivan ‘561*”) in view of *Statz et al.* (U.S. Patent No. 6,815,480).

2) Claims 28-30, 32, 41, 42, 59, 62-64, 67, and 68 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Sullivan ‘561* in view of *Statz et al.* and *Yamada et al.* (U.S. Patent No. 5,585,440).

3) Claims 11 and 12 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Sullivan ‘561* in view of *Statz et al.* further in view of *Yamagishi et al.* (U.S. Patent No. 5,779,563).

4) Claims 33 and 34 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Sullivan ‘561* in view of *Sullivan* (U.S. Patent No. 5,984,806, hereinafter “*Sullivan ‘806*”) and *Yamada et al.* further in view of *Yamagishi et al.*

5) Claims 10 and 13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Sullivan ‘561* in view of *Statz et al.* further in view of *Caschera, Jr.* (Strictly Golf Balls).

6) Claims 36 and 37 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Sullivan ‘561* in view of *Statz et al.* and *Yamagishi et al.* further in view of *Caschera, Jr.*

7) Claims 60 and 61 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Sullivan '561* in view of *Statz et al.* further in view of *Caschera, Jr.*

8) Claims 65 and 66 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Sullivan '561* in view of *Statz et al.* and *Yamada et al.* further in view of *Caschera, Jr.*

7. ARGUMENT

**I. CLAIMS 1, 2, 5, 8, 18, 19, AND 57 ARE NOT UNPATENTABLE OVER SULLIVAN '561 IN VIEW OF STATZ ET AL. UNDER 35 U.S.C. 103(a).**

In the final Office Action, mailed 27 March 2008, the Examiner rejected claims 1, 2, 5, 8, 18, 19, and 57 under 35 U.S.C. 103(a) as being unpatentable over *Sullivan '561* in view of *Statz et al.* Claim 1 is an independent claim, and claims 2, 5, 8, 18, 19, and 57 depend from claim 1.

Independent claim 1 recites a golf ball including a solid center, at least one intermediate layer, and a cover layer. The solid center has a deflection, under an applied static load of 200 lb., of between about 0.090 inches and about 0.150 inches. The intermediate layer includes thermoplastic material; the material includes a co- or ter- polymer of ethylene and acrylic acid, wherein 100% of the acid groups are neutralized with metal ions, the co- or ter-polymer including a level of Magnesium Oleate. The cover layer includes an ionomer or ionomer blend and has a Shore D hardness, measured on the curved surface of the golf ball, of greater than about 70. The golf ball, when struck by a driver club at a clubhead velocity of about 160 feet-per-second, has an initial velocity off the clubhead of greater than 240 feet-per-second. Dependent claim 2 recites a golf ball having a coefficient of restitution (COR) of greater than 0.815 at a test velocity of 150 feet-per-second.

*Sullivan '561* is directed to a golf ball having a multi-layer cover with a reduced overall quantity of ionomer in the cover. *Statz et al.* is directed to a highly-resilient thermoplastic elastomer composition that can be used in golf balls.

*Sullivan '561* alone or in combination with *Statz et al.* does not disclose, teach or suggest the golf ball of claim 1. In particular, *Sullivan '561* and *Statz et al.* do not disclose, teach or suggest a golf ball including a cover layer comprising an ionomer or ionomer blend having a Shore D hardness, measured on the curved surface of the golf ball, of greater than about 70, and a golf ball, which, when struck by a driver club at a clubhead velocity of about 160 feet-per-second, has an initial velocity off the clubhead of greater than 240 feet-per-second, as required by claim 1.

The rejection on page 2 of the Office Action relies on *Sullivan '561* and its reference to a golf ball having an outer cover layer with a Shore D hardness of at least 60. The Office Action then states on page 3 that because “the combination [*of Sullivan '561 and Statz et al.*] would result in a golf ball of the same structure as that of the Appellant, the initial velocity off the clubhead of greater than about 240 feet-per-second [*when struck by a driver club at a clubhead velocity of about 160 feet-per-second*] and the COR are inherently met.”

This Statement, however, is misplaced. First, a golf ball having an outer cover layer with a Shore D hardness of 60, or even 65, cannot produce the 240 feet-per-second initial velocity requirement. A golf ball's initial velocity when struck by a clubhead of a fixed speed (160 feet-per-second), is dependent (at least in part) on the hardness of the cover layer of the golf ball. A golf ball with a reduced hardness value (such as a Shore D of 60) will significantly deform upon impact, thus deadening the response of the golf ball off the clubhead. A golf ball having a cover layer with a Shore D hardness value of 60 simply will not produce the required velocity of claim 1. Golf balls including an outer cover layer having a Shore D hardness value of approximately 60 are equivalent to high spin balls, which are designed to deform and produce increased spin upon impact, not necessarily exceptional distance or high velocity. The reference in *Sullivan '561* to a cover layer having a Shore D hardness value of at least 60 is a broad statement encompassing most golf balls. It does not disclose or identify the significance of producing a golf ball having a cover layer with a Shore D hardness value of greater than 70, particularly with the initial velocity requirement of claim 1.

In the Remarks section on page 10, the Office Action asserts that “the examples [in *Sullivan '561*] show the hardness of the outer cover being Shore D 68, or about 70.” While *Sullivan '561* includes examples (*i.e.*, Comparative Example 1 and Example 1 in columns 15 and 16) in which the Shore D hardness is as high as 68, nowhere does *Sullivan '561* disclose or suggest a golf ball having a cover layer with a Shore D hardness value of “about 70” or, more particularly, greater than 70. Furthermore, the golf balls in these examples having an outer cover with a Shore D hardness of 68 each have a COR of 0.807 *or less* (measured at a test velocity of 125 feet-per-second); whereas Appellants' claim 2 specifically recites a COR of greater than 0.815 at a test velocity of 150 feet-per-second.

In the Remarks section on page 11, the Office Action further asserts that “*Sullivan* teaches the same composition claimed by the applicant except for the intermediate layer composition.” Appellants respectfully disagree with this assertion. As pointed out above, *Sullivan* ‘561 fails to disclose or suggest a golf ball having a cover layer with a Shore D hardness value of greater than 70. Furthermore, as explained above, neither *Sullivan* ‘561 nor *Statz et al.*, either alone or in combination, disclose or suggest a golf ball that, when struck by a driver club at a clubhead velocity of about 160 feet-per-second, has an initial velocity off the clubhead of greater than 240 feet-per-second. Thus, there is no suggestion or motivation in either of these references to modify the composition and/or structure of the golf balls disclosed therein in order to achieve a golf ball having an initial velocity off the clubhead of greater than 240 feet-per-second when struck by a driver club at a clubhead velocity of about 160 feet-per-second.

Moreover, the golf ball constructions disclosed and taught by *Sullivan* ‘561 do not inherently result in constructions that result in the Shore D hardness and initial velocity requirement of claim 1. Inherency requires the missing content to be necessary. *Southern Clay Products, Inc. v. United Catalysts, Inc.*, 43 Fed. App. 379, 388 (Fed. Cir. 2002). Inherency may not be established by probabilities or possibilities. *Id.* “The mere fact that a certain thing may result from a given set of circumstances is not sufficient.” *Southern Clay Products, Inc.*, 43 Fed. App. at 388 (citing *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999)). It is not necessary for the golf ball constructions disclosed and taught by *Sullivan* ‘561 or *Statz et al.* to provide a golf ball that exhibits an initial velocity off a clubhead of greater than 240 feet-per-second, when struck by the clubhead of a driver at a velocity of about 160 feet-per-second, or that exhibits a coefficient of restitution of greater than about 0.785 at a test velocity of 175 feet-per-second. Therefore, it is not inherent that the golf ball constructions of *Sullivan* ‘561 will result in the required velocity value. *Sullivan* ‘561 and *Statz et al.* are devoid of any disclosure, teaching or suggestion indicating that the COR and initial velocity values will necessarily result from the structure of claim 1.

The Remarks section on page 11 of the Office Action also includes the puzzling statement: “Further, the applicant is aware that the Office does not have the ability to test

inventions, which is why the initial velocity is a part of the claim.” **Appellants strongly disagree and resent the implication of the Examiner’s unprofessional statement. The initial velocity of a golf ball is a property that is widely recognized and understood by those skilled in the art.** In fact, as noted in paragraph [0006] of the subject application, the United States Golf Association (U.S.G.A.) has specific requirements for golf ball performance, and these requirements include a maximum initial velocity. The examination of an application claiming a specific initial velocity does not require the Office to perform their own evaluation on actual golf balls possessing the claimed property. Instead, patent applications directed to features that affect the initial velocity typically address the effects and, if pertinent, include data and/or probable ranges of the resulting initial velocity. To imply that “initial velocity” limitations are unpatentable is absurd. **Appellants note that the U.S. Patent & Trademark Office database includes at least 40 issued golf-related U.S. patents that include initial velocity claim limitations.** Appellants particularly question the implication surrounding the “**which is why the initial velocity is a part of the claim**” portion of the Office Action’s remark. If Appellants did not believe the initial velocity limitation were patentable, Appellants would not have included this limitation in the claims.

Appellants’ examples provided on pages 9-15 of the instant Specification provide sufficient support for Appellants’ claims and arguments, thereby negating any need on the part of the Office to conduct any further testing. More particularly, Appellants’ data provided in Table 4 on page 13 of the instant Specification shows the linear relationship between COR and velocity, with COR decreasing as velocity increases. Claim 2 is supported by the data in Table 4. Appellants’ data provided in Table 5 on page 14 of the instant Specification shows that at a set clubhead velocity (e.g. 160 ft/s), the initial velocity of the ball varies as a result of the different mantle materials. The initial velocity limitation of claim 1 is supported by the data in Table 5. Since the limitations of these claims closely correspond with the data in the supporting tables, these claims are not indefinite.

Accordingly, Appellants respectfully submit that independent claim 1 is patentable over *Sullivan ‘561* alone or in combination with *Statz et al.* for at least the reasons stated above. Additionally, Appellants respectfully submit that claims 2, 5, 8, 18, 19, and 57, which depend



from claim 1, are also patentable over *Sullivan '561* and *Statz et al.* for at least the same reasons.

Further, in reference to dependent claim 2, which adds the limitation “the golf ball has a coefficient of restitution of greater than 0.815 at a test velocity of 150 feet-per-second,” *Sullivan '561* discloses a golf ball having a coefficient of restitution (“COR”) of at least 0.750 with a test velocity of 125 +/- 5 fps. The COR is linearly related to velocity along a negative slope. Thus, the parameters are inversely proportional, with COR decreasing as test velocity increases. This relationship results, at least in part, because as the velocity increases, the golf ball deforms more upon impact, and the energy absorbed by the deformation reduces the golf ball’s return velocity, and therefore its COR. Therefore the 0.750 COR of *Sullivan '561* at a test velocity of 125 fps would actually decrease at a velocity of 150 fps as required by claim 2. Accordingly, *Sullivan '561* does not teach, suggest or disclose the COR and velocity limitation of dependent claim 2. Similarly, all of the COR values listed in *Statz et al.* are measured at a test velocity of 125 fps, none of which are as high as, or higher than, Appellants’ recited value of 0.815 (at 150 fps).

**II. CLAIMS 28-30, 32, 41, 42, 59, 62-64, 67, AND 68 ARE NOT UNPATENTABLE OVER SULLIVAN '561 IN VIEW OF STATZ ET AL. AND YAMADA ET AL. UNDER 35 U.S.C. 103(a).**

In the final Office Action, mailed 27 March 2008, the Examiner rejected claims 28-30, 32, 41, 42, 59, 62-64, 67, and 68 under 35 U.S.C. 103(a) as being unpatentable over *Sullivan '561* in view of *Statz et al.* and *Yamada et al.* Claim 28 is an independent claim, and claims 29, 30, 32, 41, 42, 62-64, 67, and 68 depend from claim 28. Claim 59 depends from independent claim 1, the rejection of which is discussed above.

Independent claim 28, recites a golf ball including a core, a mantle, and a cover layer. The core includes a high cis-content polybutadiene rubber. The rubber is synthesized using a neodymium catalyst. The mantle includes a co- or ter- polymer of ethylene and acrylic acid,

wherein 100% of the acid groups are neutralized with metal ions. The cover layer includes an ionomer and has a Shore D hardness, measured on the curved surface of the golf ball, of greater than about 70. The golf ball exhibits a coefficient of restitution of greater than about 0.785 at a test velocity of 175 feet-per-second.

*Sullivan et al. '561, Statz et al. and Yamada et al.* do not disclose, teach or suggest the golf ball of claim 28. In particular, *Sullivan et al. '561, Statz et al. and Yamada et al.* do not disclose, teach or suggest a golf ball including a core, a mantle including a co- or ter- polymer of ethylene and acrylic acid, wherein about 100% of the acid groups are neutralized with metal ions, a cover layer comprising an ionomer having a Shore D hardness, measured on the curved surface of the golf ball of greater than 70, the golf ball having a coefficient of restitution of greater than 0.785 at a test velocity of 175 feet-per-second. Much of the discussion above relating to claim 1 is directly applicable to these limitations of claim 28. *Yamada et al.* is directed to rubber compositions for golf balls and does not disclose, suggest or teach the Shore D hardness and COR limitations of claim 28. Appellants respectfully submit that claim 28 is patentable over *Sullivan et al. '561, Statz et al. and Yamada et al.* for at least the same reasons stated above with respect to claim 1. Appellants also respectfully submit that claims 29, 30, 32, 41, 42, (59), 62-64, 67, and 68, which depend from claim 28 (or claim 1), are also patentable over *Sullivan et al. '561, Statz et al. and Yamada et al.* for at least the same reasons.

**III. CLAIMS 11 AND 12 ARE NOT UNPATENTABLE OVER SULLIVAN '561 IN VIEW OF STATZ ET AL. FURTHER IN VIEW OF YAMAGISHI ET AL. UNDER 35 U.S.C. 103(a).**

In the final Office Action, mailed 27 March 2008, the Examiner rejected claims 11 and 12 under 35 U.S.C. 103(a) as being unpatentable over *Sullivan '561* in view of *Statz et al.* further in view of *Yamagishi et al.* Claims 11 and 12 depend from independent claim 1. Appellants respectfully submit that claims 11 and 12 are patentable over *Sullivan '561* and *Statz et al.* for at least the same reasons stated above with respect to claim 1.

*Yamagishi et al.* fails to overcome the deficiencies of *Sullivan '561* and *Statz et al.* *Yamagishi et al.* describes a multi-piece solid golf ball having a solid core and a cover of at least two layers enclosing the core. The solid core is formed of a rubber base and has a specific gravity of at least 1.00. The cover is formed of a thermoplastic resin and the cover outer layer has a greater specific gravity than the core or a cover inner layer.

Contrary to the assertion in the Office Action, *Yamagishi et al.* does not disclose a golf ball wherein the core, intermediate layer and cover have approximately the same specific gravity. **While the ranges of specific gravity of each of the components overlap one another, there is no suggestion or motivation to produce each of the components with approximately the same specific gravity.** Instead, *Yamagishi et al.* teaches increasing the moment of inertia of the golf ball by moving as much weight to the outer portion of the golf ball as possible. Thus, in column 2, lines 31-34, *Yamagishi et al.* teaches that the cover outer layer must have a higher specific gravity than the cover inner layer, thereby specifically teaching away from the components having approximately the same specific gravity as recited in claims 11 and 12.

Moreover, *Yamagishi et al.* is devoid of any disclosure, teaching or suggestion of a golf ball having a core, a mantle, and a cover layer with approximately the same specific gravity, such that when the ball is rotated in a solution of salt water of sufficient density to support the ball, the ball exhibits no single preferred orientation. As stated in the present application, such balance improves the intended flight and roll path of the ball.

Accordingly, Appellants respectfully submit that claims 11 and 12 are allowable over *Yamagishi et al.* and the cited art for these additional reasons.

**IV. CLAIMS 33 AND 34 ARE NOT UNPATENTABLE OVER SULLIVAN '561 IN VIEW OF SULLIVAN '806 AND YAMADA ET AL. FURTHER IN VIEW OF YAMAGISHI ET AL. UNDER 35 U.S.C. 103(a).**

In the final Office Action, mailed 27 March 2008, the Examiner rejected claims 33 and 34 under 35 U.S.C. 103(a) as being unpatentable over *Sullivan '561* in view of *Sullivan '806*

and *Yamada et al.* further in view of *Yamagishi et al.* Claims 33 and 34 depend from independent claim 28. Appellants respectfully submit that claims 33 and 34 are patentable over *Sullivan '561*, *Sullivan '806*, *Yamada et al.* and *Yamagishi et al.* for at least the same reasons stated above with respect to claim 28.

*Sullivan '561*, *Sullivan '806* and *Yamada et al.* do not disclose, teach or suggest the golf ball of claim 28. In particular, *Sullivan '561*, *Sullivan '806* and *Yamada et al.* do not disclose, teach or suggest a golf ball including a core, a mantle including a co- or ter- polymer of ethylene and acrylic acid, wherein about 100% of the acid groups are neutralized with metal ions, a cover layer comprising an ionomer having a Shore D hardness, measured on the curved surface of the golf ball of greater than 70. *Yamada et al.* is directed to rubber compositions for golf balls and does not disclose, suggest or teach the 100% neutralization and Shore D hardness limitations of claim 28.

Appellants respectfully submit that claims 33 and 34 are patentable over *Sullivan '561*, *Sullivan '806*, and *Yamada et al.* for at least the same reasons stated above with respect to claim 28 over the *Sullivan '561*, *Statz et al.*, and *Yamada et al.* references, and *Yamagishi et al.* fails to overcome the deficiencies of *Sullivan '561*, *Sullivan '806*, and *Yamada et al.*

Further, the limitations of claims 33 and 34 are essentially the same as the limitations of claims 11 and 12, respectively. Appellants respectfully submit that claims 33 and 34 are patentable over *Yamagishi et al.* for at least the same reasons stated above with respect to claims 11 and 12.

**V. CLAIMS 10 AND 13 ARE NOT UNPATENTABLE OVER SULLIVAN '561 IN VIEW OF STATZ ET AL. FURTHER IN VIEW OF CASCHERA, JR. UNDER 35 U.S.C. 103(a).**

In the final Office Action, mailed 27 March 2008, the Examiner rejected claims 10 and 13 under 35 U.S.C. 103(a) as being unpatentable over *Sullivan '561* in view of *Statz et al.* further in view of *Caschera, Jr.* Claims 10 and 13 depend from independent claim 1.

Appellants respectfully submit that claims 10 and 13 are patentable over *Sullivan '561* and *Statz et al.* for at least the same reasons stated above with respect to claim 1.

Claims 10 and 13 include the limitations “wherein the ball has a diameter of less than about 1.680 in.” and “wherein the ball has a diameter within the range of 1.62 to 1.65 inches,” respectively.

*Sullivan '561* specifically discloses a diameter of “at least 1.68 inches.” This disclosure of *Sullivan '561* is consistent with USGA requirements that require a minimum golf ball diameter of 1.68 inches. The golf balls of claims 10 and 13 are outside of the USGA requirements and outside of the disclosure and teachings of *Sullivan '561*. Further, in light of the strictly enforced, well-known USGA minimum diameter requirement for golf ball design, neither the USGA nor a person of ordinary skill in the art would equate a diameter of 1.68 inches with a diameter within the range of 1.62 to 1.65 inches. The decreased diameter of the golf ball of claims 10 and 13 facilitates the golf ball’s high velocity performance.

Despite the disclosure in *Caschera, Jr.*, there is no suggestion or motivation to modify the golf ball of *Sullivan '561* to have a diameter smaller than 1.680 inches, because such a modification would be repugnant to the teachings of *Sullivan '561*. As set forth in MPEP 2143.01(VI), if a proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *Sullivan '561* is directed to a USGA-approved golf ball. Clearly, the modifications proposed by the Office Action would push the golf ball outside the parameters of USGA approval, thereby changing the principle of operation of the *Sullivan '561* ball.

**VI. CLAIMS 36 AND 37 ARE NOT UNPATENTABLE OVER SULLIVAN '561 IN VIEW OF STATZ ET AL. AND YAMAGISHI ET AL. FURTHER IN VIEW OF CASCHERA, JR. UNDER 35 U.S.C. 103(a).**

In the final Office Action, mailed 27 March 2008, the Examiner rejected claims 36 and 37 under 35 U.S.C. 103(a) as being unpatentable over *Sullivan '561* in view of *Statz et al.* and

*Yamagishi et al.* further in view of *Caschera, Jr.* Claims 36 and 37 depend from independent claim 28. Appellants respectfully submit that claims 36 and 37 are patentable over *Sullivan '561* and *Statz et al.* for at least the same reasons stated above with respect to claim 28.

The limitations of claims 36 and 37 are essentially the same as the limitations of claims 10 and 13, respectively. Appellants respectfully submit that claims 36 and 37 are patentable over *Sullivan '561*, *Statz et al.*, *Yamagishi et al.*, and *Caschera, Jr.* for at least the same reasons stated above with respect to claims 10 and 13.

**VII. CLAIMS 60 AND 61 ARE NOT UNPATENTABLE OVER SULLIVAN '561 IN VIEW OF STATZ ET AL. FURTHER IN VIEW OF CASCHERA, JR. UNDER 35 U.S.C. 103(a).**

In the final Office Action, mailed 27 March 2008, the Examiner rejected claims 60 and 61 under 35 U.S.C. 103(a) as being unpatentable over *Sullivan '561* in view of *Statz et al.* further in view of *Caschera, Jr.* Claims 60 and 61 depend from independent claim 1. Appellants respectfully submit that claims 60 and 61 are patentable over *Sullivan '561* and *Statz et al.* for at least the same reasons stated above with respect to claim 1.

*Sullivan '561* specifically discloses a golf ball having a weight within the range of 43.8 to 45.9 grams, well outside the ranges specified by claims 60 and 61. This disclosure of *Sullivan '561* is consistent with USGA requirements that require a *maximum* golf ball weight of 1.62 ounces. The golf balls of claims 60 and 61 are outside of the USGA requirements and outside of the disclosure and teachings of *Sullivan '561*. Despite the disclosure in *Caschera, Jr.*, there is no suggestion or motivation to modify the golf ball of *Sullivan '561* to have a weight greater than 1.62 ounces (45.9 grams), because such a modification would be repugnant to the teachings of *Sullivan '561*.

**VIII. CLAIMS 65 AND 66 ARE NOT UNPATENTABLE OVER SULLIVAN '561 IN VIEW OF STATZ ET AL. AND YAMADA ET AL. FURTHER IN VIEW OF CASCHERA, JR. UNDER 35 U.S.C. 103(a).**

In the final Office Action, mailed 27 March 2008, the Examiner rejected claims 65 and 66 under 35 U.S.C. 103(a) as being unpatentable over *Sullivan '561* in view of *Statz et al.* and *Yamada et al.* further in view of *Caschera, Jr.* Claims 65 and 66 depend from independent claim 28. Appellants respectfully submit that claims 65 and 66 are patentable over *Sullivan '561*, *Statz et al.*, and *Yamada et al.* for at least the same reasons stated above with respect to claim 28.

The limitations of claims 65 and 66 are essentially the same as the limitations of claims 60 and 61, respectively. Appellants respectfully submit that claims 65 and 66 are patentable over *Sullivan et al. '561*, *Statz et al.*, *Yamada et al.*, and *Caschera, Jr.* for at least the same reasons stated above with respect to claims 60 and 61.


#### 8. CONCLUSION

For the above reasons, Appellants respectfully submit that the rejections posed by the Examiner are improper as a matter of law and fact. Accordingly, Appellants respectfully request the Board reverse the rejections of claims 1, 2, 5, 8, 10-13, 18, 19, 28-30, 32-34, 36, 37, 41, 42, and 57-68.

Pursuant to 37 C.F.R. §41.20(b)(2), Appellant authorizes the Commissioner to charge Deposit Account No. 501959 in the amount of \$510.00 to cover the filing fee for filing a brief in support of appeal. Commissioner is also hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§1.16-1.17, or credit any overpayment, to Deposit Account No. 501959.

Respectfully submitted,

Date 23 June 2008  
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**CLAIMS APPENDIX**

1. A golf ball comprising:  
a solid center having a deflection, under an applied static load of 200 lb., of between about 0.090 inches and about 0.150 inches;  
at least one intermediate layer comprised of thermoplastic material, the at least one intermediate layer comprises a co- or ter-polymer of ethylene and acrylic acid, wherein 100% of the acid groups are neutralized with metal ions, the co- or ter-polymer including a level of Magnesium Oleate; and  
a cover layer comprising an ionomer or ionomer blend and having a Shore D hardness, measured on the curved surface of the golf ball, of greater than about 70;  
wherein, the golf ball, when struck by a driver club at a clubhead velocity of about 160 feet-per-second, has an initial velocity off the clubhead of greater than 240 feet-per-second.

2. The golf ball of claim 1, where the golf ball has a coefficient of restitution of greater than 0.815 at a test velocity of 150 feet-per-second.

Claims 3 and 4 are canceled.

5. The golf ball of claim 1, wherein the at least one intermediate layer(s) has a Shore D hardness as measured on the curved outer surface of the at least one intermediate layer, of between about 55 and about 62.

Claims 6 and 7 are canceled.

8. The golf ball of claim 1, wherein the ter-polymer of the intermediate layer is comprised of ethylene, acrylic acid, and n-butyl acrylate.

9. (canceled)

10. The golf ball of claim 1, wherein the ball has a diameter of less than 1.680 in.

11. The golf ball of claim 1, wherein the core, the at least one intermediate layer, and the cover layer have approximately the same specific gravity, such that when the ball is rotated in a solution of salt water of sufficient density to support the ball, the ball exhibits no single preferred orientation.

12. The golf ball of claim 11, wherein the specific gravity of the core, the at least one intermediate layer, and the cover layer is between about 1.118 and about 1.132.

13. The golf ball of claim 1, wherein the ball has a diameter within the range of 1.62 to 1.65 inches.

Claims 14-17 are canceled.

18. The golf ball of claim 1, wherein the core is adjusted to a desired specific gravity through use of one or more high density fillers.

19. The golf ball of claim 18, wherein the high density filler is tungsten.

Claims 20-27 are canceled.

28. A golf ball comprising:  
a core comprising a high cis-content polybutadiene rubber, the rubber being synthesized using a neodymium catalyst;  
a mantle comprising a co- or ter- polymer of ethylene and acrylic acid, wherein 100% of the acid groups are neutralized with metal ions; and  
a cover layer comprising an ionomer and having a Shore D hardness, measured on the curved surface of the golf ball, of greater than about 70;

wherein the golf ball exhibits a coefficient of restitution of greater than about 0.785 at a test velocity of 175 feet-per-second.

29. The golf ball of claim 28, wherein the golf ball, when struck by a driver club at a clubhead velocity of about 160 ft/s, has an initial velocity off a clubhead of greater than about 238 ft/s.

30. The golf ball of claim 28, wherein the polybutadiene rubber has a cis-1,4 content of at least 94 percent and the core further comprises about 20 to about 28 parts by weight of a co-crosslinking agent comprised primarily of a zinc salt of an unsaturated acrylate, about 3 to about 5 parts by weight of a metal oxide activator, and about 0.8 to about 1.5 parts per hundred resin of a free radical initiator.

31. (canceled)

32. The golf ball of claim 28, wherein the thermoplastic material comprises about 70 to about 80% ethylene, about 8 to about 10.5% acrylic acid and about 12 to about 20% n-butyl acrylate.

33. The golf ball of claim 28, wherein the core, the mantle, and the cover layer have approximately the same specific gravity, such that when the ball is rotated in a solution of salt water of sufficient density to support the ball, the ball exhibits no single preferred orientation.

34. The golf ball of claim 33, wherein the specific gravity of the core, the mantle, and the cover layer is between about 1.118 and about 1.132.

35. (canceled)

36. The golf ball of claim 28, wherein the ball has a diameter of less than 1.680 in.

37. The golf ball of claim 28, wherein the ball has a diameter within the range of 1.62 to 1.65 inches.

Claims 38-40 are canceled.

41. The golf ball of claim 28, wherein the core is adjusted to a desired specific gravity through use of one or more high density fillers.

42. The golf ball of claim 41, wherein the high density filler is tungsten.

Claims 43- 56 are canceled.

57. The golf ball of claim 1, wherein the level of Magnesium Oleate is greater than 5 phr of the base resin of the co- or ter-polymer.

58. The golf ball of claim 1, wherein the solid center is comprised of a high cis-content polybutadiene rubber, and wherein the rubber is synthesized using a neodymium catalyst.

59. The golf ball of claim 1, wherein the solid center is comprised of a polybutadiene rubber having a cis-1,4 content greater than 94 percent.

60. The golf ball of claim 1, wherein the golf ball has a weight equal to or greater than 47.0 grams and less than 48.5 grams.

61. The golf ball of claim 60, wherein the golf ball has a weight equal to or greater than 48.0 grams and less than 48.5 grams.

62. The golf ball of claim 28, wherein the co- or ter-polymer includes an amount of Magnesium Oleate.

63. The golf ball of claim 62, wherein the amount of Magnesium Oleate is greater than 5 phr of the base resin of the co- or ter-polymer.

64. The golf ball of claim 28, wherein the solid center is comprised of a polybutadiene rubber having a cis-1,4 content greater than 94 percent.

65. The golf ball of claim 28, wherein the golf ball has a weight equal to or greater than 47.0 grams and less than 48.5 grams.

66. The golf ball of claim 65, wherein the golf ball has a weight equal to or greater than 48.0 grams and less than 48.5 grams.

67. The golf ball of claim 28, wherein the core has a deflection, under an applied static load of 200 lb., of between about 0.090 inches and about 0.150 inches.

68. The golf ball of claim 28, wherein the golf ball exhibits a coefficient of restitution of greater than about 0.815 at a test velocity of 150 feet-per-second

**EVIDENCE APPENDIX**

None

**RELATED PROCEEDINGS APPENDIX**

None